Ti.

15

A compound having the Formula I:

$$Q_1 \longrightarrow Q_4 \longrightarrow NH$$

$$Q_2 \longrightarrow Q_3 \longrightarrow R_1$$

wherein:

5 Q_1 is N or CR_3 ;

Q₂ is N or CR₄;

 Q_3 is N or CR_{20} ;

 Q_4 is N or S;

R₁ is H, alkyl, aryl, arylalkyl, heteroaryl; heteroarylalkyl, heterocycloalkyl, arylsulfonyl, aryloxycarbonyl, alkoxyalkoxyalkyl, alkyl-S-R₇, alkyl-NH-C(=O)-R₈ or -R₉-X-R₁₀-R₁₁)H;

wherein each of the alkyl, aryl, arylalkyl heteroaryl, heteroarylalkyl, heterocycloalkyl, arylsulfonyl, aryloxycarbonyl and alkoxyalkoxyalkyl moieties in each of the foregoing R_1 groups can be optionally substituted with up to 5 groups independently selected from the group consisting of C_1 - C_6 alkyl, OH, hydroxyalkyl, -C(=O)- R_5 , CN, aryl, alkoxycarbonyl, alkylaryl, arylalkyl, heteroaryl, S-heteroaryl optionally substituted with halogen, heterocycloalkyl optionally substituted with halogen, heterocycloalkyl optionally substituted with amino, NO₂, halogen, monohaloalkyl, dihaloalkyl, trihaloalkyl, perhaloaryl, perhaloalkylaryl, alkyl-NR₁₅R₁₆ and NR₁₅R₁₆;

or one of said alkyl, aryl, arylalkyl heteroaryl, heteroarylalkyl, heterocycloalkyl, arylsulfonyl, aryloxycarbonyl or alkoxyalkoxyalkyl moieties of one of said R₁ groups can be attached to a structure of Formula I at position R₁ thereof;

10

15

30

١Į]

(i)

fl

M

 R_3 and R_4 are independently each H, halogen, C_1 - C_6 alkyl, trihaloalkyl, alkoxycarbonyl, alkoxy, $NR_{15}R_{16}$, and NO_2 , wherein said C_1 - C_6 alkyl, alkoxycarbonyl, and alkoxy groups can each be optionally substituted with $NR_{15}R_{16}$;

R₅ is H, -NHNHR₆, -NHN=CH-R₆, heteroaryl, heterocycloalkyl, wherein said hereteroaryl group can be optionally substituted with an aryl or heteroaryl group,

 R_6 is aryl, heteroaryl; arylsulfonyl, heteroarylsulfonyl, -C(=S)-NH-aryl, -C(=S)-NH-arylcarbonyl, -C(=S)-NH-heteroarylcarbonyl, -C(=S)-NH-alkylene- R_{21} , -C(=O)-NH-arylcarbonyl, -C(=O)-NH-heteroarylcarbonyl, or -C(=O)-NH-alkylene- R_{21} where R_{21} is carboxy, alkoxycarbonyl, aryl, heteroaryl, heterocycloalkyl, arylaminocarbonyl, cycloalkylaminocarbonyl, or a saturated hydrocarbon fused ring system optionally having an aryl ring fused thereto, said ring system being optionally substituted with up to three alkyl groups on the alkyl or aryl rings thereof;

wherein any of said R_6 groups can be optionally substituted with up to 3 groups selected from $NR_{15}R_{16}$, alkyl, hydroxy, halogen, aryl, alkoxy, trihaloalkoxy, arylalkyloxy, NO_2 , -SH, -S-alkyl, heteroarylcarbonyl, heteroaryl, alkylheteroaryl, or a moiety of formula $-OC_2CH_2-O$ - attached to adjacent atoms of said R_6 group;

R₇ is heteroaryl or heterocycloalkyl;

R₈ is aryl;

 R_9 and R_{10} are each independently alkylene having from 1 to about 20 carbons;

20 X is $-N(R_{12})$ -, $-C(R_{13})(R_{14})$ - or O;

R₁₁ is H, heterocycloaryl, or alkoxy, wherein said heterocycloaryl, or alkoxy group can be optionally substituted with up to four groups independently selected from halogen, amino, trihaloalkyl, alkoxycarbonyl, and CN;

 R_{12} is H or C_1 - C_6 alkyl; and

25 R_{13} and R_{14} are each independently H or C_1 - C_6 alkyl.

 R_{15} is H, halogen, C_{1} - $_{12}$ alkyl, methylcarbonyl, heterocycloalkyl, arylsulfonyl, heteroarylalkyl, aminoalkyl, arylcarbonyl, branched and straight chain polyaminoalkyl, or a group of formula $CH_2(CHOH)_4CH_2OH$,

wherein said methylcarbonyl, heterocycloalkyl, arylsulfonyl, heteroarylalkyl, aminoalkyl, arylcarbonyl, and branched and straight chain polyaminoalkyl groups can be substituted by up to 3 OH groups;

Sch Al

and the start water of some times the start water of the start water of the start o

[]

R₁₆ is H, halogen, or C₁-C₆ alkyl;

or R_{15} and R_{16} together with the nitrogen atom to which they are attached can form a succinimic or phthalimido group or a fused ring derivative thereof, wherein said succinimido or phthalimido group or fused ring derivative thereof can be optionally substituted by up to three substituents independently selected from NO_2 and halogen, or a group of Formula I at position R_1 threreof.

or R_{15} and R_{16} together with the nitrogen atom to which they are attached can form a group of Formula I wherein said nitrogen atom is Q_{x} thereof;

provided that when R₃ and R₄ are H, R₁ is not:

- methyl, -CH₂-C(=O)-O-A where A is a cyclopentacycloocten-8-yl etser, 1-(1-methylcyclophetyl)piperidin-4-yl, 1-(1-phenylcyclophetyl)piperidin-4-yl, or ethoxyethyl.
- 2. The compound of claim 1 wherein Q_1 is CR_3 , Q_2 is CR_4 , Q_3 is CR_{20} , and Q_4 15 is N.
 - 3. The compound of claim 2 wherein R_3 and R_4 are each independently halogen, amino, NO_2 , CN, C_{1-6} alkoxy or C_{1-6} alkyl optionally substituted with up to 3 halogen atoms.
- 4. The compound of claim 2 wherein R₃ and R₄ are each independently 20 halogen, amino, or NO₂.
 - 5. The compound of claim 2 wherein R_3 and R_4 are each independently halogen.
 - 6. The compound of claim 2 wherein R_3 and R_4 are each chlorine.
- 7. The compound of claim 2 wherein R₁ is alkyl, alkyl substituted with alkoxycarbonyl, alkyl substituted with carboxy, or aralkyl where said aryl portion of said aralkyl is phenyl, pyridinyl, or pyrimidinyl, and where said phenyl, pyridinyl, or

Sub AZ pyrimidinyl portion of said arylalkyl group is optionally substituted with up to 5 substituents selected from halogen, monohaloalkyl, dihaloalkyl, trihaloalkyl, NO₂, alkoxycarbonyl, and alkyl.

5 Dept. 10

fi.

m

TU

8. The compound of claim 6 wherein R₁ is alkyl, alkyl substituted with alkoxycarbonyl, alkyl substituted with carboxy, or aralkyl where said aryl portion of said aralkyl is phenyl, pyridinyl, or pyrimidinyl, and where said phenyl, pyridinyl, or pyrimidinyl portion of said arylalkyl group is optionally substituted with up to 5 substituents selected from halogen, monohaloalkyl, dihaloalkyl, trihaloalkyl, NO₂, alkoxycarbonyl, and alkyl.

- 10 9. The compound of claim 7 wherein said phenyl, pyridinyl, or pyrimidinyl portion of said arylalkyl group is optionally substituted with up to 5 substituents selected from CF₃, F, Cl, NO₂, COOCH₃, I, Br, and t-butyl.
- 10. The compound of claim 8 wherein said phenyl, pyridinyl, or pyrimidinyl portion of said arylalkyl group is optionally substituted with up to 5 substituents selected from CF₃, F, Cl, NO₂, COOCH₃, I, Br, and t-butyl.

5 b A3

- 11. The compound of claim 2 wherein said R_1 is selected from the radicals shown in Scheme 19, supra.
 - 12. The compound of claim 2 wherein R_1 is alkyl substituted with -C(=O)- R_5 .

Ba

- 13. The compound of claim 12 wherein R₅ is -NHNHR₆, or -NHN=CH-R₆.
- 20 14. The compound of claim 13 wherein R_5 is -NHNHR₆.
 - 15. The compound of claim 13 wherein R_5 is -NHN=CH- R_6 .

٠..

(I)

that that that

T.

16. The compound of claim 14 wherein R_6 is -C(=O)-NH-aryl, -C(=O)-NH-cycloalkyl, -C(=S)-NH-aryl, arylsulfonyl, heteroarylsulfonyl, heterocycloalkyl, arylaminocarbonyl, cycloalkylaminocarbonyl, -C(=S)-NH-alkylene- R_{21} where R_{21} is heteroaryl or heterocycloaryl, or a saturated hydrocarbon fused ring system optionally having an aryl ring fused thereto, said ring system being optionally substituted with up to three alkyl groups on the alkyl or aryl rings thereof;

wherein any of said R_6 groups can be optionally substituted with up to 3 groups selected from $NR_{15}R_{16}$, NO_2 , a moiety of formula $-OC_2CH_2-O$ - attached to adjacent atoms of said R_6 group, aryl, C_{1-6} alkoxy, carboxy, or C_{1-6} trihaloalkoxy.

- 17. The compound of claim 15 wherein R₆ is aryl or heteroaryl optionally substituted with up to 3 groups selected from OH, C₁₋₆ alkoxy, NO₂, C₁₋₆ trihaloalkoxy, C₁₋₆ trihaloalkyl, aryl, arylalkyloxy, and a moiety of formula -OC₂CH₂-O- attached to adjacent atoms of said R₆ group.
- 18. The compound of claim 14 wherein said R₆ is any of the radicals shown in Scheme 16, supra.
 - 19. The compound of claim 15 wherein said R_6 is any of the radicals shown in Scheme 15, *supra*.
- The compound of claim 6 wherein R₁ has the formula -(CH₂)_q-L₄ where q is 0 to 6 and L₄ is aryl, heteroaryl or heterocycloalkyl, arylsulfonamino, arylcarboxyamino or
 -S-heteroaryl, where each of said L₄ is optionally substituted with up to three substituents selected from halogen and NO₂.
 - 21. The compound of claim 20 wherein said L₄ is N-maleimidyl, N-succinimidyl, N-phthalimidyl, N-naphthalimidyl, N-pyromellitic diimidyl, phenylsulfonamidyl, phenylcarboxamidyl, N-benzopyrrolidinyl, benzimidazol-1-yl, benzimidazol-2-yl, 1,2,4-triazolyl-4-yl, or purinyl, each of said L₄ groups being optionally

10

25

B2 ant

substituted with 1 or 2 substituents selected from halogen, trihaloalkyl, trihaloalkoxy and NO₂.

22. The compound of claim 1 having the formula:

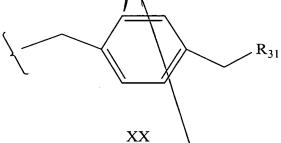
5 wherein:

10

 $R_{3} \ and \ R_{4} \ are \ independently \ each \ H, \ halogen, \ C_{1}\text{-}C_{6} \ alkyl, \ C_{1}\text{-}C_{6} \ alkoxy, \\ trihaloalkyl, \ alkoxycarbonyl, \ alkoxy, \ NR_{15}R_{16}, \ or \ NO_{2};$

 R_{30} is $C_{1.6}$ alkyl, heteroarylalkyl, arylalkyl, or heteroaryl, wherein each of said heteroarylalkyl, arylalkyl, or heteroaryl groups each can be optionally substituted with up to three substitutents selected from haloes, NO_2 , and mono-, di-, or trihaloalkyl;

or R_{30} has the structure XX:



wherein R₃₁ is alkylamino, aminoalkylamino, poly(aminoalkyl)amino,

- heterocycloalkylamino, heterocycloalkyl, -NH-(CHOH)₄-CH₂OH, -NH-(CH₂)₁₋₁₂-heterocycloalkyl.
 - 23. The compound of claim 22 wherein R_{30} has the structure XX.
 - 24. The compound of claim 23 wherein R_{31} is heterocycloalkylamino.
- 20 25. The compound of claim 23 wherein R_{31} is alkylamino.

and the state of t

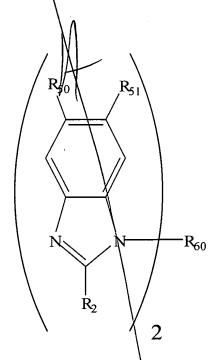
Harry Harry

IBIS-0403 - 69 - PATENT

26. The compound of claim 23 wherein R₃₁ is aminoalkylamino.

- 27. The compound of claim 23 wherein R₃₁ is poly(aminoalkyl)amino.
- 28. The compound of claim 23 wherein R_{31} is heterocycloalkylamino.
- 29. The compound of claim 23 wherein R_{31} is heterocycloalkyl.
- 5 30. The compound of claim 23 wherein R_{31} is -NH-(CH₂)₁₋₁₂-heteroaryl.
 - 31. The compound of claim 23 wherein R_{31} is-NH-(CH₂)₁₋₁₂-heterocycloalkyl.
 - 32. The compound of claim 22 wherein R_{31} is any of the radicals shown in Example 11, supra.
- 33. The compound of claim 22 wherein R₁ is pyridin-4-yl-methyl, pyridin-3ylmethyl, 4-fluorophen-1-yl-methyl, 4-nitrophen-1-yl-methyl, 4-(bromomethyl)phen-1-ylmethyl, pyrimidine-2-yl, or 2,4-dinitrophen-1-yl.

A compound having the structure:



wherein:

15 R₂ is NH₂ or piperidin-4-yl;

 R_{50} and R_{51} are each independently selected from H, halogen, C_1 - C_6 alkyl, trihaloalkyl, alkoxycarbonyl, alkoxy, $NR_{15}R_{16}$, and NO_2 , wherein said C_1 - C_6 alkyl, alkoxycarbonyl, and alkoxy groups can each be optionally substituted with $NR_{15}R_{16}$;

R₁₅ is H, halogen, C₁-₁₂ alkyl, methylcarbonyl, heterocycloalkyl, arylsulfonyl, 5 heteroarylalkyl, aminoalkyl, arylcarbonyl, branched and straight chain polyaminoalkyl, or a group of formula CH₂(CHOH)₄CH₂OH,

wherein said methylcarbonyl, heterocycloalkyl, arylsulfonyl, heteroarylalkyl, arylcarbonyl, and branched and straight chain polyaminoalkyl groups can be substituted by up to 3 OH groups;

 R_{16} is H, halogen, or C_1 - C_6 alkyl;

or R_{15} and R_{16} together with the nitrogen atom to which they are attached can form a succinimicdo or phthalimido group or a fused ring derivative thereof, wherein said succinimido or phthalimido group or fused ring derivative thereof can be optionally substituted by up to three substituents independently selected from NO_2 and halogen;

15 R_{60} is alkylene having from 1 to 18 carbons, or $-R_9$ -X- R_{10} -)H;

 R_9 and R_{10} are each independently alkylene having from 1 to about 20 carbons;

X is $-N(R_{12})$ -, $-C(R_{13})(R_{14})$ or O; and

 R_{12} , R_{13} and R_{14} are each independently H or C_1 - C_6 alkyl.

- 35. The compound of claim 34 wherein R_2 is piperidin-4-yl.
- The compound of claim 35 wherein R_{50} and R_{51} are each halogen.
 - 37. The compound of claim\35 wherein R_{50} and R_{51} are each chlorine.
 - 38. The compound of claim 37 wherein R_{60} is alkylene having from 1 to 6 carbons.
 - 39. The compound of claim 37 wherein R_{60} is alkylene having from 1 to 4
- 25 carbons.
 - 40. The compound of claim 37 wherein R_{60} is $-CH_2-C_6H_4-CH_2-$.
 - 41. The compound of claim 37 wherein R_{60} is para- CH_2 - C_6H_4 - CH_2 -.
 - 42. The compound of claim 34 wherein R₂ is NH₂.
- 43. The compound of claim 42 wherein R₅₀ and R₅₁ are each independently selected from H, halogen, methyl, COOCH₃, CN and CF₃.
 - 44. The compound of claim 43 wherein R_{60} is $-R_9$ -X- $-R_{10}$ -.

wherein:

۱.

<u>-</u>1

The boat with the

The Built

10

20

 R_{52} and R_{53} are each independently selected from H, halogen, C_1 - C_6 alkyl, trihaloalkyl, alkoxycarbonyl, alkoxy, $NR_{15}R_{16}$, and NO_2 , wherein said C_1 - C_6 alkyl, alkoxycarbonyl, and alkoxy groups can each be optionally substituted with $NR_{15}R_{16}$;

R₁₅ is H, halogen, C₁₋₁₂ alkyl, methylcarbonyl, heterocycloalkyl, arylsulfonyl, heteroarylalkyl, aminoalkyl, arylcarbonyl, branched and straight chain polyaminoalkyl, or a group of formula CH₂(CHOH)₄CH₂OH;

wherein said methylcarbonyl, heterocycloalkyl, arylsulfonyl, heteroarylalkyl, aminoalkyl, arylcarbonyl, and branched and straight chain polyaminoalkyl groups can be substituted by up to 3 OH groups;

R₁₆ is N, halogen, or C₁-C₆ alkyl;

or R_{15} and R_{16} together with the nitrogen atom to which they are attached can form a succinimicdo or phthalimido group or a fused ring derivative thereof, wherein said succinimido or phthalimido group or fused ring derivative thereof can be optionally substituted by up to three substituents independently selected from NO_2 and halogen; and

15 z is 1 to 6.

- 64. The compound of claim 63 wherein R_{15} and R_{16} are each methyl.
- 65. The compound of claim 64 wherein z is 2 or 3.
- 66. The compound of claim 55 wherein R_{52} and R_{53} are each independently H, C_{1-6} alkyl, alkoxy optionally substituted with dialkylamino, or alkylamino.
 - 67. The compound of claim 66 wherein R_{52} is H.
- 68. The compound of claim 67 wherein R_{53} is methyl, methoxy, alkoxy optionally substituted with dialkylamino, or alkylamino.
 - 69. The compound of claim 67 wherein R_{53} is OCH₃ or O(CH₂)₃N(CH₃)₂.
 - 70. The compound of claim 66 wherein \Re_{53} is H.
- 71. The compound of claim 70 wherein R₅₂ is methyl, methoxy, alkoxy optionally substituted with dialkylamino, or alkylamino.
 - 72. The compound of claim 70 wherein R_{52} is QCH_3 or $Q(CH_2)_3N(CH_3)_2$.
 - 73. A compound of Formula:

$$R_3$$
 R_{2a}
 R_{30}

wherein:

R_{2a} is amino, phenyl, mono- or bicyclic heterocycloalkyl having 1 or 2 ring nitrogen atoms, mono- or bicyclic heteroaryl having 1 or 2 ring nitrogen atoms, cycloalkyl, halogen, heterocycloalkylalkyl (i.e., alkyl sub w' heterocycloalkyl) having 1 or 2 ring nitrogen atoms, mono- or bicyclic heterocycloalkylamino having 1 or 2 ring nitrogen atoms or a group of formula -S-alkylene-L₁ where L₁ is mono- or bicyclic-heteroaryl having 1 or 2 ring nitrogen atoms;

wherein each of said amino, phenyl, heterocycloalkyl, heteroaryl, cycloalkyl, heterocycloalkylalkyl, or heterocycloalkylamino groups can be optionally substituted with a group selected from amino, OH, C₁-C₁₂ alkyl, a structure of formula - C(=O)CH(NH₂)-L₂ where L₂ is the side chain of a naturally occurring alpha amino acid, -C(NH₂)=NH, C₁-C₁₂ alkylcarbonyl, mono- or bicyclic heteroaryl having 1 or 2 ring nitrogen atoms, mono- or bicyclic heteroarylalkyl having 1 or 2 ring nitrogen atoms, or S- alkyl-heteroaryl where said heteroaryl is mono- or bicyclic having 1 or 2 ring nitrogen atoms; and

 R_3 and R_4 are each independently halogen, amino, NO_2 , CN, C_{1-6} alkoxy or C_{1-6} alkyl optionally substituted with up to 3 halogen atoms; and

R₃₀ is H, alkyl, aryl, arylalkyl, heteroaryl; heteroarylalkyl, heterocycloalkyl, 20 arylsulfonyl, aryloxycarbonyl, alkoxyalkoxyalkyl, alkyl-S-R₇, alkyl-NH-C(=O)-R₈ or -R₉-X-R₁₀-R₁₁)H;

wherein each of the alkyl, arylalkyl heteroaryl, heteroarylalkyl, heterocycloalkyl, arylsulfonyl, aryloxycarbonyl and alkoxyalkoxyalkyl moieties in each of the foregoing R_1 groups can be optionally substituted with up to 3 groups independently selected from the group consisting of C_1 - C_6 alkyl, OH, hydroxyalkyl, -C(=O)- R_5 , CN, aryl, alkoxycarbonyl, alkylaryl, arylalkyl, heteroaryl, S-heteroaryl optionally substituted with

f.i

î.]

H Man But Man

20

halogen, heteroarylalkyl optionally substituted with halogen, heterocycloalkyl optionaly substituted with amino, NO_2 , halogen, monohaloalkyl, dihaloalkyl, trihaloalkyl, perhaloaryl, perhaloalkylaryl, alkyl- $NR_{15}R_{16}$ and $NR_{15}R_{16}$;

or one of said alkyl, aryl, arylalkyl heteroaryl, heteroarylalkyl,

5 heterocycloalkyl, arylsulfonyl, aryloxycarbonyl or alkoxyalkoxyalkyl moieties of one of said R₁ groups can be attached to a structure of Formula I at position R₁ thereof;

 R_5 is H_6 -NHNHR₆, -NHN=CH-R₆, heteroaryl, heterocycloalkyl, wherein said hereteroaryl group can be optionally substituted with an aryl or heteroaryl group,

R₆ is aryl, heteroaryl; arylsulfonyl, heteroarylsulfonyl, -C(=S)-NH-aryl, -

C(=S)-NH-arylcarbonyl, -C(=S)-NH-heteroarylcarbonyl, -C(=S)-NH-alkylene-R₂₁, C(=O)-NH-aryl, -C(=O)-NH-arylcarbonyl, -C(=O)-NH-heteroarylcarbonyl, or -C(=O)-NH-alkylene-R₂₁ where R₂₁ is carboxy, alkoxycarbonyl, aryl, heteroaryl, heterocycloalkyl, arylaminocarbonyl, cycloalkylaminocarbonyl, or a saturated hydrocarbon fused ring system optionally having an aryl ring fused thereto, said ring system being optionally
 substituted with up to three alkyl groups on the alkyl or aryl rings thereof;

wherein any of said R_6 groups can be optionally substituted with up to 3 groups selected from $NR_{15}R_{16}$, alkyl, hydroxy, halogen, aryl, alkoxy, trihaloalkoxy, arylalkyloxy, NO_2 , -SH, -S-alkyl, heteroarylcarbonyl, heteroaryl, alkylheteroaryl, or a moiety of formula $-OC_2CH_2$ -O- attached to adjacent atoms of said R_6 group;

R₇ is heteroaryl or heterocycloalkyl;

 R_8 is aryl;

 R_9 and R_{10} are each independently alkylene having from 1 to about 20 carbons;

X is $-N(R_{12})$ -, $-C(R_{13})(R_{14})$ - or O;

25 R₁₁ is H, heterocycloaryl or alkoxy, wherein said heterocycloaryl or alkoxy group can be optionally substituted with up to four groups independently selected from halogen, amino, trihaloalkyl, alkoxycarbonyl, and CN;

R₁₂ is H or C₁-C₆ alkyl; and

 R_{13} and R_{14} are each independently H or C_1 - C_6 alkyl;

10

20

 R_{15} is H, halogen, $C_{1^{-}12}$ alkyl, methylcarbonyl, heterocycloalkyl, arylsulfonyl, heteroarylalkyl, aminoalkyl, arylcarbonyl, branched and straight chain polyaminoalkyl, or a group of formula $CH_2(CHOH)_4CH_2OH$,

wherein said methylcarbonyl, heterocycloalkyl, arylsulfonyl,

5 heteroarylalkyl, aminoalkyl, arylcarbonyl, and branched and straight chain polyaminoalkyl groups can be substituted by up to 3 OH groups;

 R_{16} is H, halogen, or C_1 - C_6 alkyl;

or R_{15} and R_{16} together with the nitrogen atom to which they are attached can form a succinimicdo or phthalimido group or a fused ring derivative thereof, wherein said succinimido or phthalimido group or fused ring derivative thereof can be optionally substituted by up to three substituents independently selected from NO_2 and halogen, or a group of Formula I at position R_1 threreof;

or R_{15} and R_{16} together with the nitrogen atom to which they are attached can form a group of Formula I wherein said nitrogen atom is Q_4 thereof;

- The compound of claim 73 wherein R_3 and R_4 are each halogen.
 - 75. The compound of claim 73 wherein R_3 and R_4 are each chlorine.
 - 76. The compound of claim 73 wherein R_{2a} is amino, Cl, phenyl, monocyclic heterocycloalkyl having 1 or 2 ring nitrogen atoms, monocyclic heteroaryl having 1 ring nitrogen atom, cyclopenyl, cyclohexyl, heterocycloalkyl-methyl, piperidine-4-yl amino or a group of formula -S-(C₂₋₄ alkylene)-N-phthalimido;

wherein each of said phenyl, heterocycloalkyl heteroaryl, cyclopenyl, cyclohexyl, heterocycloalkyl-methyl, and piperidine-4-yl amino groups can be optionally substituted with a group selected from NH_2 , OH, CH_3 , $COOCH_3$, a structure of formula - $C(=O)CH(NH_2)-L_2$ where L_2 is a serine or threonine side chain, $C(NH_2)=NH$,

- 25 benzimidazolyl, or benzimidazolemethylyl.
 - 77. The compound of claim 75 wherein R_{2a} is amino, Cl, phenyl, monocyclic heterocycloalkyl having 1 or 2 ring nitrogen atoms, monocyclic heteroaryl having 1 ring

F. ...

[]

 10

25

nitrogen atom, cyclopenyl, cyclohexyl, heterocycloalkyl-methyl, piperidine-4-yl amino or a group of formula -S- $(C_{2-4}$ alkylene)-N-phthalimido;

wherein each of said phenyl, heterocycloalkyl heteroaryl, cyclopenyl, cyclohexyl, heterocycloalkyl-methyl, and piperidine-4-yl amino groups can be optionally substituted with a group selected from NH_2 , OH, CH_3 , $COOCH_3$, a structure of formula - $C(=O)CH(NH_2)$ L_2 where L_2 is a serine or threonine side chain, $-C(NH_2)=NH$, benzimidazole, or tenzimidazolemethyl.

78. The compound of claim 73 wherein R_{2a} is amino, Cl, piperidinyl, pyridinyl, phenyl, cyclopentyl, cyclopexyl, pyrrolidinyl, piperazinyl, -CH₂-piperazinyl, piperidine-4-yl-amino or S-alkyl-phthalyl, wherein said piperidinyl, pyridinyl, phenyl, cyclopentyl, cyclohexyl, pyrrolidinyl, piperaxinyl, -CH₂-piperazinyl, or S-alkyl-phthalyl groups can be optionally substituted with a group selected from NH₂, methylcarbonyl, -C(=O)CH(NH₂)-CH₂OH, methyl, OH, -C(NH₂)=NH, OH, benzimidazole-2-yl, and -CH₂-benzimidazole-2-yl.

- The compound of claim 75 wherein R_{2a} is amino, Cl, piperidinyl, pyridinyl, phenyl, cyclopentyl, cyclohexyl, pyrrolidinyl, piperazinyl, -CH₂-piperazinyl, piperidine-4-yl-amino or S-alkyl-phthalyl, wherein said piperidinyl, pyridinyl, phenyl, cyclopentyl, cyclohexyl, pyrrolidinyl, piperazinyl, -CH₂-piperazinyl, or S-alkyl-phthalyl groups can be optionally substituted with a group selected from NH₂, methylcarbonyl, -C(=O)CH(NH₂)-CH₂OH, methyl, OH, -C(NH₂)=NH, OH, benzimidazole-2-yl, and -CH₂-benzimidazole-2-yl.
 - 80. The compound of claim 73 wherein R_{2a} is amino, Cl, pyridin-4-yl, phenyl substituted with amino, cyclopentyl substituted with amino, cyclopexyl optionally substituted with amino, pyrrolidin-2-yl optionally substituted by hydroxy, piperazin-1-yl optionally substituted at the 4-yl position by benzimidazole-2-yl, piperazin-1-yl-methyl optionally substituted at the 4-yl position by -CH₂-benzimidazole-2-yl, piperidine-4-yl-amino, piperidin-1-yl substituted by amino, S-alkyl-phthalyl, or said R₂ is piperidin-4-yl

pptionally substituted at the 1-yl position with $-C(=O)CH_3$, $-C(=O)CH(NH_2)-CH_2OH$, $(NH_2)=NH$, or CH_3 .

The compound of claim 75 wherein R_{2a} is amino, Cl, pyridin-4-yl, phenyl substituted with amino, cyclopentyl substituted with amino, cyclohexyl optionally substituted with amino, pyrrolidin-2-yl optionally substituted by hydroxy, piperazin-1-yl optionally substituted at the 4-yl position by benzimidazole-2-yl, piperazin-1-yl-methyl optionally substituted at the 4-yl position by -CH₂-benzimidazole-2-yl, piperidine-4-ylamino, piperidin-1-yl substituted by amino, S-alkyl-phthalyl, or said R₂ is piperidin-4-yl optionally substituted at the 1-yl position with -C(=O)CH₃, -C(=O)CH(NH₂)-CH₂OH, 10 -C(NH₂)=NH, or CH₃.

- The compound of claim 73 wherein R_{2a} is amino, piperidin-4-yl-amino, 82. piperiazine-1-yl optionally substituted with benzimidazole-2-yl, pyridin-4-yl, piperidin-4yl optionally substituted at the 1-yl position with -C(=O)CH₃, -C(=O)CH(NH₂)-CH₂OH, -C(NH₂)=NH, or CH₃, 4-amino-piperdin-\(\lambda\)-yl, 3-amino-phen-1-yl, 3-amino-cyclopent-1yl, cyclohexyl optionally substituted at the 3-yl or 4-yl position with NH₂, 4-15 hydroxypyrrolidin-2-yl, piperazin-1-yl-methyl, \(\frac{1}{4}\)-(benzimidazole-2-yl-methyl)piperazin-1yl-methyl, or S-alkyl-phthalyl where said alkyl has from 2 to 4 carbons.
- The compound of claim 73 wherein R_{2a} is piperidin-4-yl optionally 83. substituted at the 1-yl position with -C(=O)CH₃, -C(=O)CH(NH₂)-CH₂OH, -C(NH₂)=NH, 20 or CH₃.
 - The compound of claim 75 wherein R_{2a} is piperidin-4-yl optionally 84. substituted at the 1-yl position with -C(=O)CH₃, -C(=O)CH(NH₂)-CH₂OH, -C(NH₂)=NH, or CH₃.
 - 85. The compound of claim 73 wherein R_{2a} is piperidin-4-yl.
- 25 86. The compound of claim 75 wherein R_{2a} is piperidin-4-yl.

87. The compound of claim 73 wherein R_{2a} is NH_2 .

B2 Cont

15

- 88. The compound of claim 75 wherein R_{2a} is NH_2 .
- 89. The compound of claim 86 wherein R_{30} is alkyl substituted with -C(=O)- R_5 .
- 90. The compound of claim 89 wherein R_5 is $-NHNHR_6$, or $-NHN=CH-R_6$.
- 5 91. The compound of claim 90 wherein R_5 is -NHNHR₆.
 - 92. The compound of claim 90 wherein R_5 is -NHN=CH- R_6 .
- 93. The compound of claim 11 wherein R₆ is -C(=O)-NH-aryl, -C(=O)-NH-cycloalkyl, -C(=S)-NH-aryl, arylsulfonyl, heteroarylsulfonyl, heterocycloalkyl, arylaminocarbonyl, cycloalkylaminocarbonyl, -C(=S)-NH-alkylene-R₂₁ where R₂₁ is heteroaryl or heterocycloaryl, or a saturated hydrocarbon fused ring system optionally having an aryl ring fused thereto, said ring system being optionally substituted with up to three alkyl groups on the alkyl or aryl rings thereof;

wherein any of said R_6 groups can be optionally substituted with up to 3 groups selected from $NR_{15}R_{16}$, NO_2 , a moiety of formula $-OC_2CH_2$ -O- attached to adjacent atoms of said R_6 group, aryl, C_{1-6} alkoxy, carboxy, or C_{1-6} trihaloalkoxy.

- 94. The compound of claim 92 wherein R_6 is aryl or heteroaryl optionally substituted with up to 3 groups selected from OH, C_{1-6} alkoxy, NO_2 , C_{1-6} trihaloalkoxy, C_{1-6} trihaloalkyl, aryl, arylalkyloxy, and a moiety of formula $-OC_2CH_2$ -O- attached to adjacent atoms of said R_6 group.
- 20 95. A compound as described in Table, *supra*.
 - 96. The compound of claim 86 wherein R_{30} has the formula $-(CH_2)_q L_4$ where q is 0 to 6 and L_4 is aryl, heteroaryl or heterocycloalkyl, arylsulfonamino, arylcarboxyamino



or -S-heteroary), where each of said L_4 is optionally substituted with up to three substituents selected from halogen and NO_2 .

- 97. The compound of claim 96 wherein said L₄ is maleimido, succinimido, phthalimido, naphthalimido, pyromellitic diimido, phenylsulfonamido,
- 5 phenylcarboxamido, benzopyrrolidinę, benzimidazole, triazole, or -S-benzimidazole.

98. \ A compound of Formula:

wherein:

Q₅ is CH or N;

10 Q_6 is C- R_{61} or N;

 Q_7 is C- R_{60} or N;

 R_{60} and R_{61} are each independently H, halogen, C_{1-6} alkyl, trihaloalkyl, or C_{1-6} alkoxy;

provided that when Q_6 is C-R₆₁, Q_7 is C-R₆₀ and Q_5 is CH, then R₆₀ and R₆₁ are not both H.

- 99. The compound of claim 98 wherein Q_5 is N.
- 100. The compound of claim 98 wherein Q_6 is N.
- 101. The compound of claim 98 wherein Q_7 is N.
- 101. The compound of claim 98 wherein Q_5 is N, Q_6 is C-R₆₁ and Q_7 is C-R₆₀.
- 20 102. The compound of claim 98 wherein Q_7 is N, Q_6 is $C-R_{61}$ and Q_5 is CH.
 - 103. The compound of claim 98 wherein Q_5 is N, Q_6 is N and Q_7 is C-R₆₀.
 - 104. The compound of claim 98 wherein Q_5 is C_1^H , Q_6 is R_{61} and Q_7 is $C-R_{60}$.

105. The compound of claim 104 wherein R_{60} and R_{61} are each independently H, Br, Cl, methoxy, methyl or trifluoromethyl.

106. The compound of clark 104 wherein R₆₀ is OCH₃ and R₆₁ is H, or R₆₀ is CH₃ and R₆₁ is H, or R₆₀ is Br and R₆₁ is H, or R₆₀ is Cl and R₆₁ is H, or R₆₀ is CF₃ and R₆₁ is H, or R₆₀ is Cl and R₆₁ is CH₃, or R₆₀ and R₆₁ are both Cl.